

**STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL**

Petition of BNE Energy Inc. for a  
Declaratory Ruling for the Location,  
Construction and Operation of a 4.8 MW  
Wind Renewable Generating Project on  
Flagg Hill Road in Colebrook,  
Connecticut (“Wind Colebrook South”)

Petition No. 983

May 20, 2011

**PROPOSED FINDINGS OF FACT OF PETITIONER BNE ENERGY INC.**

1. BNE Energy, Inc. (BNE), a Connecticut corporation with headquarters in West Hartford, was founded in 2006 for the purpose of constructing and operating commercial wind generation projects in Connecticut and elsewhere. (BNE 1)
2. On December 6, 2010, BNE, pursuant to Connecticut General Statutes (CGS) §16-50k and §§16-50j-40 of the Regulations of Connecticut State Agencies, submitted a petition to the Connecticut Siting Council (Council) for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the construction, maintenance, and operation (Petition) of a 4.8 megawatt (MW) Wind Renewable Generating Project on Flagg Hill Road in Colebrook, Connecticut (“Wind Colebrook South” or the “Project”) (BNE 1)
3. Pursuant to CGS § 16a-35k, Connecticut state energy policy includes the goal to “develop and utilize renewable energy resources, such as solar and wind energy, to the maximum extent possible.” (BNE 1)
4. The State of Connecticut has implemented renewable portfolio standards (RPS) that required 14 percent of electric generation within the state be produced by renewable resources by 2010. By 2020, RPS requirements increase to 27 percent, 20 percent of which must be from Class I renewable energy sources, which include wind. (BNE 1)
5. Wind Colebrook South will further the State’s energy policy by developing renewable energy resources. (BNE 1)
6. The Council conducted a field review of the proposed project site on March 22, 2011 and conducted public hearings in Colebrook on March 22 and 23, 2011. Evidentiary hearings were conducted on March 23 and April 14, 21 and 26, 2011.
7. The proposed project calls for the installation of three GE Energy (“GE”) 1.6 megawatt (“MW”) wind turbines and associated ground equipment, an ancillary building (which will provide storage, office space and an educational area), upgrading and installation of an access road and a 13.8 kilovolt (“kV”) electrical interconnection. (BNE 1)

8. The Project does not propose the development of any paved roads or paved parking areas. (BNE 1)
9. The proposed project site is located at 29 Flagg Hill Road and 17 Flagg Hill Road in Colebrook, Connecticut (together, the “Property”) on approximately 79.44 acres of undeveloped land. (BNE 1)
10. Currently, the Property is undeveloped with the exception of a meteorological (“Met”) tower, and a residence located on the 17 Flagg Hill Road parcel which is owned by the principals of BNE. The Nature Conservancy owns wooded, undeveloped land adjacent to the Property to the west. The Northwestern Connecticut Sportsmen Association, Inc. (“Gun Club”) owns a large tract of land to the north. Flagg Hill Road abuts the Property to the east. A private residence and additional undeveloped woodlands bound the Property to the south. Land use within the vicinity of the Property is comprised of sparse residential development. (BNE 1)
11. The Project was initially presented to the Town of Colebrook in the fall of 2008 in order to obtain a zoning permit for the installation of the Met tower at the Property. Since that time, BNE has kept the Town and its elected local and state officials apprised of the Project’s progress. (BNE 1)
12. While not legally required, in preparation of filing this petition, BNE and its representatives submitted preliminary information to the Town on October 8, 2010. At the request of the First Selectman of Colebrook, BNE and its representatives conducted a public informational presentation for the residents of Colebrook on November 10, 2010. The informational meeting was well attended by members of the public. (BNE 1)
13. BNE has gone beyond what is legally required in order to foster public participation and to provide the Council with as much information concerning the Project as possible. Simultaneous with the filing of its petition, again while not legally required, BNE sent a certified mailing to all abutting property owners notifying such owners of the filing of its petition and published a legal notice in the Litchfield County Times. In addition, while not legally required, BNE sent copies of its petition to local, state and federal officials that would be required to receive notice for a certificate filing pursuant to Connecticut General Statutes (“CGS”) § 16-50l(b). (BNE 1)
14. The materials submitted in BNE’s petition far exceed the Council’s recommendations contained in its April 2010 application guideline for Petitions for Declaratory Rulings for Renewable Energy Facilities. That application guideline does not recommend the filing of engineered site plans, visibility analysis, wetlands impacts analysis, habitat analysis, bird and bat impact analyses, noise impact analyses or the like. Despite this, BNE submitted all of the referenced analyses in its petition and, during this proceeding, also submitted shadow flicker analysis and ice drop/ice throw analysis. (BNE 1)
15. The Council, like BNE, went well above and beyond its legal requirements in reviewing a petition for declaratory ruling. First, approximately one year prior to BNE’s submission of this petition, the Council opened Petition 863 to examine its jurisdiction over

renewable energy facilities, which resulted in the Council's revised application guidelines in April 2010. *See* Petition 863. Furthermore, in early 2010 and in anticipation of receiving BNE's petitions, the Council released a request for proposal to retain a consultant on general renewable energy matters. On March 26, 2010, the Council formed a subcommittee to review and evaluate responses to the RFP. *See* March 26, 2010 Meeting Minutes. The Council subsequently retained Epsilon Associated in August 2010 to assist the Council in reviewing renewable energy projects such as this petition. *See, e.g.*, DEP Comments dated March 14, 2011.

16. In addition, while not legally required, the Council took a rare step in hosting not one but two public comment sessions in the Town of Colebrook and conducted a total of four days of evidentiary hearings for this single petition.
17. Numerous individuals, groups or entities sought and were granted legal standing in this proceeding including parties the Town of Colebrook, FairwindCT, Inc. ("Fairwind"), Robin L. Hirtle, Stella and Michael Somers, David R. Lawrence and Jeannie Lemelin, Kristin M. and Benjamin C. Mow, Walter M. Zima and Brandy Grant, Eva Villanova and Susan Wagner, and intervenor The Connecticut Light and Power Company (CL&P).
18. Pursuant to CGS §16-50k(a), the project is eligible to be approved by a declaratory ruling since it is a grid-side distributed resources facility under 65 MW that is in compliance with air and water quality standards of the Connecticut Department of Environmental Protection (DEP). (BNE 1)
19. Compliance with DEP air and water quality standards is the appropriate and only standard of review for this petition. (CGS § 16-50k(a); BNE 1)
20. The Council has indicated that the Council has jurisdiction to approve a petition for declaratory ruling so long as the facility will not have a substantial environmental impact and therefore would not require a certificate of environmental compatibility and public need. (CGS § 16-50p (3)(B))
21. The Council has indicated that, in determining whether a facility has a substantial environmental impact, the Council must consider the criteria laid out in CGS § 16-50p, which includes the consideration of the nature of the probable environmental impact of the facility, including a specification of every significant adverse effect, including, but not limited to, electromagnetic fields that, whether along or cumulatively with other effects, on, and conflict with the policies of the state concerning the natural environment, ecological balance, public health and safety, scenic, historic and recreational values, forests and parks, air and water purity and fish, aquaculture and wildlife. (CGS § 16-50p (3)(B))
22. Even if this heightened standard of review is applied to this petition, which BNE argues is not the applicable standard, the Project will not have a substantial environmental impact. (BNE 1)

DEP Air and Water Quality Standards

**A. Air**

1. The Project complies with the applicable DEP air quality standards found at RCSA § 22a-69-1 *et seq.* (BNE 9g)
2. The Project will also result in a net benefit to air quality in the State of Connecticut, as the production of 8,410 megawatt hours (MWh) per year of clean, renewable energy will reduce CO<sub>2</sub> emissions by approximately 6,332 tons per year. (BNE 9g)
3. The DEP acknowledged:

While it is entirely reasonable and justified to expect emissions reductions to result from the operation of these turbines as opposed to alternate sources of generation in their absence, experience has shown that it is very difficult to predict exactly which existing sources of generation would be displaced by any new source and, therefore, what the resultant emissions reductions would be. Nevertheless, a non-emitting source of electricity will result in emissions reductions over time as virtually every competing source of replacement power will yield emissions. . . .

(DEP correspondence dated April 6, 2011).

4. The production of 12,614 MWh per year of clean, renewable energy will also reduce particulate matter and ozone precursor emissions of volatile organic compounds and oxides of nitrogen as compared to emissions from other fossil fuel sources. These emission reductions will result in public health benefits and improved visibility in Connecticut. (BNE 9g).

**B. Water**

1. The Project will comply with DEP Water Quality Standards, including both groundwater quality standards and surface water standards. The Project will not result in any negative impacts to ground water or surface water on the Property or in the vicinity of the Property. (BNE 9c, 9f, 18)
2. The DEP's 2002 soil erosion and sedimentation guidelines and 2004 Stormwater quality manual are guidance documents, not requirements or statutes. Both guidance documents state that they are intended only to provide information and reference but are not intended to substitute professional judgment. (Council Administrative Notice #9, #40)
3. The Project will not have a negative impact on surface water quality on the Property or in the vicinity of the Property. (BNE 9c, 9f, 18)
4. The development of the Project will result in only 5.36-5.79 acres of permanent disturbance on the entire 79.44 acre parcel. This area will remain as compacted stone

roads (3.59 acres), rip rap cover slopes (1.72 acres), and the location of the turbine towers (0.05 acres). Compacted earth (0.43 acres) will be reclaimed post-construction by adding topsoil and seeding. (BNE 9f, 18)

5. An additional 8.51 acres will temporarily disturbed during construction for a short period of two to four months and will be restored and planted with native grasses and allowed to return to its natural state through long-term succession. (BNE 9f, 18)
6. The development of this Project will result in far less impact than the development of the Property for residential purposes. (BNE 18)
7. Stormwater discharged to uplands in proximity to the site's surface waters will be properly treated by utilizing best management practices in accordance with the CT DEP 2004 Connecticut Stormwater Quality Manual. Potential non-point source pollutants originating from erosion and sedimentation during construction primarily consist of suspended particulate soil media that will be minimized by incorporating best management practices detailed in the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control Manual. (BNE 9c, 9f, 18)
8. Due to the unmanned nature of the Project and low traffic it generates, the proposed development would not be considered to be classified as a land use with potential for high pollutant loads (i.e., heavy metals, hydrocarbons, synthetic organic chemicals, trash, etc.). (BNE 9c, 9f, 18)
9. Existing and designated uses of the Property will be protected by maintaining and protecting the quality of surface water both during and after construction of the Project. (BNE 9c, 9f, 18)
10. With the exception of a small septic system, which will be designed in accordance with the Connecticut Public Health Code and applicable local regulations, and will contribute negligible quantities of nitrogen and phosphorus to the site, the Project will not result in discharge of phosphorous and nitrogen that will impair surface water or groundwater quality. (BNE 9c, 9f, 18)
11. Disturbed areas of the site will be revegetated following construction with a variety of native herbaceous vegetation which will not require fertilization or maintenance with herbicides or pesticides. Therefore, the Project will not result in excessive anthropogenic inputs of nutrients or synthetic organic chemicals that might impair surface waters. (BNE 9c, 9f, 18)
12. The proposed wetland crossing, which will be subject to discharge of fill materials, is located at the northernmost extent of a headwater wetland (Wetland 1) associated with an unnamed perennial watercourse. This crossing is proposed within an area characterized as a seasonally saturated forested wetland. This area drains to the south through a saturated forested wetland and into a large beaver pond. An unnamed perennial watercourse drains from the southern tip of the beaver pond (off-site). (BNE 9c, 9f, 18)

13. The crossing location was carefully located at a drainage divide where areas to the north of the crossing drain to the north (off-site), and areas south drain to the south (through Wetland 1). A subsurface drainage structure known as a “French Mattress” will eliminate the need for culvert crossings, thereby reducing the necessary road height and as such, wetland filling. The French Mattress will also allow for conveyance of surface and subsurface hydraulic flow from either side of the wetland crossing resulting in minimal impact to the wetland’s hydrology (e.g., no impediment of surface or subsurface flows or concentration of flows). With its location within a drainage divide at the northernmost extent of the wetland, minimal groundwater movement is anticipated through the crossing, so it is highly unlikely that the downstream wetland hydrology will be altered. (BNE 9c, 9f, 18)
14. While Wetland 1 in its entirety provides numerous functions and values at a principal level, the area of the proposed crossing provides a different set of functions. It lacks many of the attributes that are present within the main body of Wetland 1 to the south. Headwater wetland systems are considered particularly important in water quality management as they are the first step in treating water moving from uplands to stream systems. The location of the proposed crossing within a drainage divide at the northernmost extent of Wetland 1 and the method of crossing to be used (i.e., French Mattress) will not result in a likely adverse impact to the wetland functions and values of this system. (BNE 9c, 9f, 18)
15. The proposed wetland impacts will not affect existing and designated uses or downstream water quality of surface waters of the State of Connecticut. (BNE 9c, 9g, 18)
16. The Council’s guidelines for renewable facilities under 65 MW, which the Project indisputably falls under, do not require any engineered plans to be filed with a petition for declaratory ruling for such a facility. (Council’s Petition for Declaratory Ruling Energy Facility guide, updated April 2010.)
17. BNE submitted preliminary drawings for review during this locational approval portion of this proceeding. Assuming that three turbines are approved on the Property, BNE will then move into the development and management (“D&M”) portion of this proceeding, during which it would submit preliminary construction drawings. Assuming those D&M preliminary drawings are approved, BNE would then be required to submit 100 percent complete construction drawings—incorporating any requested modifications to the preliminary construction drawings—prior to the commencement of construction. *See, e.g.* Docket 370, Decision and Order GSRP (with specific development and management plan requirements including development of a stormwater management system).
18. This is consistent with Council’s past practices in its review of renewable energy facility petitions for declaratory ruling. *See* Petition 784, Decision and Order and Petition 834 Decision and Order (with specific development and management plan requirements including development of stormwater management systems and “final” site plans). The

Council has expressed that it is its intention to require the same here. (April 14, 2011 Tr. at 197-98)

19. Nowhere in the seven pages of its comments does DEP raise any issues or concerns regarding water quality or soil, erosion or sedimentation control. (DEP correspondence dated April 6, 2011)
20. The DEP specifically commended BNE for its plan to remove erosion control barriers after upland meadow habitat is created, noting that “[t]oo often erosion control barriers are not removed from the site after the affected areas have been planted and stabilized” and that “[i]t is beneficial to get barrier materials, which can often include plastic sheeting, off the site as soon as practical.” (DEP correspondence dated April 6, 2011)
21. The Project will satisfy DEP’s groundwater standards and guidelines and will result in no impact to groundwater on the Property or the vicinity thereof. (BNE 9f)
22. The proposed operations will include a well which will be drilled on-site and withdraw water from the on-site aquifer. The well water will be used in a restroom that will be utilized by site personnel and potentially visitors. The restroom will discharge to a septic system that will also be located on-site. The well and septic system will be designed and constructed in accordance with local and state health codes and will be similar to, or have less of an impact, than a typical residential dwelling. (BNE 9f, 9i)
23. No other use of groundwater or discharge to the ground or subsurface will be created. Operation of the turbine does not require bulk storage of fuel or other hazardous materials which could be accidentally released to the environment. Normal operations will not require any discharges, other than for sanitary purposes. (BNE 9f)
24. The potential for impacts to groundwater resulting from a release of hazardous materials during construction will be minimized through the adoption of a US EPA Spill Prevention Controls and Countermeasures Plan. (BNE 9f)
25. BNE’s proposed well survey and controlled blasting will ensure that construction of the Project will result in no impact to surrounding groundwater wells. (BNE 9i)

Environmental Effect

26. The appropriate legal standard to review this petition is compliance with DEP air and water quality standards. (BNE 1)

27. The Council has indicated that it may view its standard of review as extending to consideration of whether the Project will have a substantial adverse environmental effect. To the extent that the Council applies that standard of review, which is appropriate for a certificate proceeding, but not a petition, the record is clear that the Project will not conflict with state policies concerning the natural environment, ecological balance, public health and safety, scenic, historic and recreational values, forests and parks, air and water purity and fish, aquaculture and wildlife, and that there is “not sufficient reason to deny the application.” (CGS § 16-50p(a)(3)(B) and (C); BNE 1)
28. The Project will have minimal environmental impact and any such impact certainly does not rise to the level of substantial adverse environmental effect.

**A.     *The Natural Environment***

1. The Project complies with state policies concerning the natural environment. (BNE 1, 9c 9j, 15)
2. Connecticut has expressed a commitment to “develop and utilize renewable energy resources, such as solar and wind energy, to the maximum extent possible.” (CGS § 16a-35k)
3. The State has implemented renewable portfolio standards (RPS) that require 27 percent of electric generation within the State to be produced by renewable resources by 2020, with 20 percent of the required 27 percent being generated by Class I renewable energy sources, such as wind. (BNE 1)
4. The Project would represent a meaningful step toward achieving Connecticut’s expressed commitment to renewable energy. (BNE 1)

**B.     *Ecological Balance***

5. The Project will not have a substantial adverse environmental effect in terms of ecological balance. (BNE 1, 9c, 9j, 15)
6. Construction activities associated with the installation of the proposed Project are primarily expected to have a short-term impact on terrestrial wildlife. (BNE 1, 9j, 15)
7. Long-term impacts on wildlife resulting from operation of the proposed Project are expected to be minimal. (BNE 1, 9c, 9j, 15)
8. Disturbance activities associated with the proposed Project would primarily affect areas characterized as second growth northern hardwood forest, which is an abundant forest type in proximity to the Property as well as throughout northwest Connecticut. The loss and/or conversion of this small amount of forested habitat is not significant on either a site or a landscape scale, as there are several large areas of similar forested habitat adjacent to and in the vicinity of the Property. (BNE 1, 9c)

9. Following development activities, disturbed areas (with the exception of the access road) will be planted using a native herbaceous seed mixture and maintained as meadow habitat. The addition of meadow habitat adjacent to the existing meadow is likely to be beneficial to a number of species, including but not limited to the smooth green snake. (BNE 1, 9c, 9j, 15)
10. BNE has no intentions of developing the vast majority of the Property and has, in fact, agreed to permanently protect the most environmentally sensitive areas of the Property. (April 26, 2011 Tr. at 189)
11. The Property will largely retain its current vegetative characteristics and will effectively create an additional buffer around the Wolcott Preserve area by eliminating the potential for suburban development. The Project will also contribute to maintaining a healthy watershed. (BNE 1, 9c)
12. The Project is largely successful in minimizing direct impact to wetland resources on the Property. Due to the need to locate turbines in a manner that effectively captures wind and maximizes electrical generation efficiency, direct wetland impacts associated with access road construction are required. These impacts will be limited to approximately 4,700 square feet of direct impact. (BNE 1, 9c)
13. Where wetland impacts are unavoidable, careful consideration has been given to the location of these impacts in order to minimize the effect on wetland functions and values. The crossing of Wetland 1, required to access the location for Turbine 3, is situated in an area of the wetland that has been subject to historic disturbance associated with a logging road crossing. No watercourse feature is associated with this crossing. Several principal and secondary functions and values are associated with Wetland 1, including wildlife habitat, production export, flood-flow alteration, and groundwater recharge/discharge. However, the portion of Wetland 1 that would be impacted does not provide these functions and values. (BNE 1, 9c)
14. Wetland areas temporarily disturbed by construction activities will be restored with a variety of native wetland plantings. Following establishment of these plantings and permanent stabilization of exposed soils, erosion control measures will be removed so as not to impede migration of wildlife utilizing the Property. (BNE 1, 9c) The DEP specifically commended BNE for this feature of its proposed Project. (DEP correspondence dated April 6, 2011)
15. The Great St. John's-wort (*Hypericum ascyron*), a State Species of Special Concern, was identified from the Natural Diversity Data Base as occurring in the area of the Colebrook South project. (BNE 1, 9c) As the DEP noted in its comments submitted in this proceeding, Great St. John's-wort is not envisioned to be impacted by the Project. (DEP correspondence dated April 6, 2011)
16. Although the high elevation of the area precludes the occurrence of many amphibians and reptiles, two State-listed Special concern snakes were identified as potentially occurring

in the area—the smooth green snake and the eastern ribbon snake. There will be no adverse impact to these species as a result of the Project. The clearing resulting from the Project will actually enhance habitat for both of these species, as they require unforested open habitats. The smooth green snake, once widely distributed in Connecticut, has suffered from a lack of viable open habitat; the Project will result in a net benefit to this species by the creation of a significant new area of prime habitat. The Project is also protective of the “live zones” surrounding vernal pools, in which 95 percent of the species that breed in a vernal pool are found. (BNE 15; April 21, 2011 Tr. at 250-51,256-58)

### ***C. Public Health and Safety***

17. The Project represents a clean and renewable method of electricity generation in a manner consistent with State policies to protect public health and safety. (BNE 1)
18. The Project will generate electricity in a cleaner and more environmentally acceptable manner compared to conventional generation, e.g. nuclear, natural gas, coal and oil. (BNE 1, 9g)
19. The Project will result in a net benefit to air quality in the State and will reduce particulate matter and ozone precursor emissions of volatile organic compounds and oxides of nitrogen as compared to emissions from other fossil fuel sources. These emission reductions will result in public health benefits and improved visibility in Connecticut. (BNE 1, 9g)
20. The Project will meet all applicable safety requirements for construction, operation and electrical interconnection. (BNE 1, 9a)
21. The technology selected is manufactured by GE, one of the world’s leading wind turbine suppliers, with over 13,500 GE wind turbine installations operating safely worldwide providing clean, renewable energy. (BNE 1, 9a)
22. Variable speed control and independent blade pitch will be used for aerodynamic braking to reduce blade speed during high winds. The reinforced tower design will enable reliable and safe operation that meets product and regulatory compliance expectations up to maximum extreme gusts for a three second period of 56 m/s (over 125 mph) and for ten minutes of 40 m/s (over 89 mph) according to IEC standards. (BNE 1, 9a)
23. The wind turbine machine can be controlled automatically or manually from either an interface located inside the nacelle or from a control box at the bottom of the tower. Control signals can also be sent from a remote computer via a SCADA. (BNE 1, 9a)
24. BNE expects to enter into an operations and maintenance agreement with GE to remotely monitor and maintain the turbines. BNE operations and maintenance personnel will also be located on-site to supplement the services provided by GE. (BNE 1, 9a)

25. To override any machine operation, emergency stop buttons located in the tower base and in the nacelle can be activated to stop the turbine in the event of an emergency. (BNE 1, 9a)
26. The rotor blades are also equipped with lightning receptors mounted in the blade and the turbines are grounded and shielded to protect against lightning. (BNE 1, 9a)
27. The turbines are also specially built to handle seismic loads. (BNE 1, 9a)
28. The chances of ice throw impacting surrounding residences or individuals is once 512 years or less for the GE 1.6-100 turbine and once in 1,810 years or less for the GE 1.6-82.5 turbine. This is a worst case scenario that assumes no mitigation measures are implemented and that the turbines are operating during icing conditions. (BNE 9h)
29. Despite the minimal risk of ice throw from the Project, BNE has committed to employing shut down procedures and a specific re-start procedure, completely eliminating any potential risk due to ice. (BNE 9h April 14, 2011 Tr. at 57, 97)
30. BNE has committed to employing shut down procedures and a specific re-start procedure, completely eliminating any potential risk due to ice. (BNE 9h)
31. The Project complies with GE recommended setback distances related to ice throws. (BNE 9g)
32. Remote and internal monitoring of the turbines can detect icing events, or other problems, through changes in turbine electrical output when compared to wind speed. Ice formation can affect the aerodynamics of the turbine, as accumulating ice would slow down the blades. Sensors would detect lower power outputs when compared to wind speed and would cause the turbine to automatically shut down. The shut down would protect the turbine from mechanical damage as well as act as a safety measure during an icing event. Internal monitoring can also detect icing events through an increase in rotor vibration caused by ice formation on the blades; the turbines would be shut down if this occurred. (BNE 9h)
33. The turbine will be monitored continuously by GE during operation. During known or predicted icing events, BNE will dispatch personnel to the site to monitor the turbines for icing. If the turbines are shut down, BNE will have personnel on-site to assess ice accumulation and operating conditions. Those on-site personnel will inspect the turbines and ensure that ice has melted and fallen from the blades prior to re-start. (BNE 9h)
34. The DEP developed noise control regulations to establish community noise exposure criteria, Regs. Conn. State Agencies §22a-69-1, et. seq. (Council Administrative Notice Item 42)
35. The Project complies with DEP noise control regulations. (BNE 1, 9d)

36. The DEP noise control regulations establish three types of land classifications based on the actual use of the parcel. The three categories are Class A, generally residential; Class B, generally commercial; and Class C, generally industrial. (BNE 1, 9d)
37. Land use classification for noise control purposes is not based on zoning (Council Administrative Notice #42)
38. The Property is currently undeveloped with the exception of the Met tower. The construction of electric generating wind turbines would render the property a Class C land use. (BNE 1, 9d)
39. The DEP noise criteria from a Zone C emitter to a Zone A use is 61 dBA during the daytime and 51 dBA during the nighttime. (Council Administrative Notice #42)
40. The projected sound levels generated by the Project range from 31-49 dBA during both daytime and nighttime conditions, in compliance with DEP criteria. (BNE 1, 9d)
41. The DEP has provided a comment letter regarding BNE's petition and did not mention any issue with noise. (DEP Comments dated April 6, 2011)
42. Background noise levels are irrelevant to a determination of compliance with DEP noise control regulations. (Council Administrative Notice Item 42)
43. There are no DEP noise regulations for noise increases. (Council Administrative Notice 42, BNE 9d)
44. The wind turbines will not be running or will be running at their lowest sound levels based upon the wind speeds that exist during their background sound levels. Thus, the actual sound level increases from the wind turbines, if they were to be running, will vary from 0 to 5 dB(A). These increases are minor, as the opponents themselves have indicated, as a 3 dB(A) increase is just barely perceivable to the human ear. (BNE 9d)
45. The sound levels presented in the BNE noise report represent worst case sound levels compared to DEP noise impact criteria. The BNE noise report demonstrates that the worst case sound levels will only occur 11% of the time and that the majority of the worst case sound levels will occur during the wintertime. The remainder of the time (89%), the wind turbines will be generating lower sound levels, especially in the summertime. Therefore, while potential noise mitigation measures were discussed in response to questions, no noise mitigation measures are proposed because the sound levels will be so low that they will meet both the industrial (Class C) and residential (Class A) noise impact criteria. (BNE 1, 9d)

**D. *Scenic, Historic and Recreational Values***

46. VHB completed a review of the Project with the State Historic Preservation Office ("SHPO"). There has been no finding by the SHPO that the Project will have any

adverse impact on historic and cultural resources in the State of Connecticut, including but not limited to the Rock Hall Luxe Lodging.

47. Given the distance from the Project to Rock Hall Luxe Lodging, no impact to the inn is anticipated. Rock Hall Luxe Lodging is well over a mile away from the closest turbine of the Project.
48. No other historic resources are in question as potentially impacted by the Project.
49. The Project is not anticipated to have a negative impact on scenic or recreational values in the area. (BNE 1, 9b, 16)
50. Areas where at least one of the proposed turbine hubs could be visible above the tree canopy year-round (during both “leaf-on” and “leaf-off” conditions) comprise approximately 254 acres within a five mile “Study Area” emanating from the Property. This represents less than 0.05% of the 52,560-acre Study Area. (BNE 1, 9b)
51. At its apex, the blade(s) may be visible above the tree canopy from approximately 457 acres (less than 1 percent of the Study Area). (BNE 1, 9b)
52. The majority of potential year-round views of the turbine hub would occur on the Property and its immediate environs, including portions of the adjacent road and Gun Club to the north and the Nature Conservancy to the west. Views would be limited westward beyond the adjacent Nature Conservancy woodlands due to the presence of significant ridgelines; similar conditions exist to the east. No views are anticipated from the two state scenic roads that exist within the Study Area. (BNE 1, 9b)
53. No views are anticipated from proximate trail systems, including those at Dennis Hill State Park and Haystack Mountain State Park, although views may be achievable from elevated locations such as the observation tower lookout at Haystack Mountain and the elevated monument at Winsted Soldiers Memorial. (BNE 1, 9b)
54. A limited number of residential properties are located near the Property. BNE’s analysis conservatively included some properties as “residential” even if they were actually occupied by either commercial or recreational structures, agricultural land or forest. Approximately 35 residential properties within one mile of the Property were identified as potentially having at least partial views of the Project’s turbine(s) hub(s) during “leaf-on” conditions. Approximately 45 additional properties within one mile could have views of the blade(s) at its apex above the trees. (BNE 1, 9b)
55. Approximately 1,327 acres (representing about 2.5% of the Study Area) have the potential to offer some views of the turbine hubs through the trees during “leaf-off” conditions. (BNE 1, 9b)
56. Most of the potential seasonal visibility (about 75%) of the Project occurs on and within approximately one mile of the Project site. Approximately 16 residential properties

within one mile of the Project site could have at least partial views of the turbine(s) hub(s) through the intervening trees during “leaf-off” conditions. (BNE 1, 9b)

57. BNE’s visibility analysis utilizing the 100m hub height and 50m blade diameters included an evaluation of properties with potential visibility that included residential “structures.” BNE’s analysis utilizing the 100m hub height and 82.5m blade diameter included an evaluation of properties with potential visibility that included all residential “properties” (see the footnote 3 at bottom of page 6). Thus, all parcels within the study area that were predicted to have some visibility – regardless of current development or existence of structures – were included in the analysis of the 82.5m blade diameter turbines. This accounts for any perceived difference in the results. (BNE 1, 9b)
58. The DEP noted that, “[a]s a densely populated state, there are no locations in Connecticut which are miles from neighboring land uses, including residences. Some level of impact upon neighboring properties cannot be avoided in the siting of facilities such as that proposed in this petition.” (DEP correspondence dated April 6, 2011)
59. The Project is located along Route 44 on the stretch of road where businesses are located in Colebrook, not in the area of town designated as a Scenic Area.
60. Shadow flicker is the alternating changes in light intensity in a shadow cast upon an area. The change in light intensity is caused by the sun casting a shadow of each of the rotating blades over an area. (BNE 1, 9b)
61. The Project will not result in a substantial shadow flicker effect. (BNE 1, 9b)
62. Of 75 proximate receptor locations evaluated, a total of seven receptors are predicted to have some shadow flicker events. Of those seven receptors, the only one expected to experience more than 30 hours annually is the residence located on the Property at 17 Flagg Hill Road, which is owned by the principals of BNE. (BNE 1, 9b)
63. The only potential impact to forests and parks of the State would be potential visibility of the turbines from those areas. (BNE 9b)
64. The turbines would not be visible from hiking trails but elevated monuments and/or towers may provide some opportunity for visibility. In terms of distant views, the turbines will not constitute a significant feature along the horizon from distant forests and parks. (BNE 9b)
65. The DEP agreed that “the visibility of the turbines from a distance of over four miles does not change the overall richness of the view from [the] vantage point” at Haystack Mountain. (DEP correspondence dated April 6, 2011)

**E. *Air and Water Purity***

66. The Project's impact to air purity is positive in that the green, renewable energy produced by the Project will actually result in a decrease in greenhouse gas emissions. (BNE 1, 9g)
67. In terms of water purity, the Project will comply with DEP Water Quality Standards including both groundwater quality standards and guidelines and surface water standards and guidelines. The Project will not result in any negative impacts to ground water or surface water on the Property or in the vicinity of the Property. (BNE 9f)
68. DEP submitted seven pages of comments regarding the proposed Project and did not mention any concern regarding impact to water. (DEP correspondence dated April 6, 2011)

**F. *Fish, Aquaculture and Wildlife***

69. Fish and aquaculture are not associated with the Project site and the record is clear that there are no alleged or potential impacts to such species. (BNE 1, 9c)
70. In terms of wildlife, the Property does not contain high value or uncommon wildlife habitat. (BNE 1, 9c)
71. BNE has no intentions of developing the vast majority of the Property and has, in fact, agreed to permanently protect the most environmentally sensitive areas of the Property. Again, the limited habitat disturbance caused by the Project is mostly temporary. (BNE 1, 9c, 15)
72. The Project will have no impact on any endangered, threatened or species of special concern. (BNE 1, 9c, 9j, 16)
73. The Great St. John's-wort (*Hypericum ascyron*), a State Species of Special Concern, was identified from the Natural Diversity Data Base as potentially occurring in the vicinity of the Property. (BNE 1)
74. As the DEP noted in its comments submitted in this proceeding, Great St. John's-wort is not envisioned to be impacted by the Project. (DEP correspondence dated April 6, 2011)
75. Although the high elevation of the area precludes the occurrence of many amphibians and reptiles, two State-listed Special concern snakes were identified as potentially occurring in the area—the smooth green snake and the eastern ribbon snake. There will be no adverse impact to these species as a result of the Project. The clearing resulting from the Project will actually enhance habitat for both of these species, as they require unforested open habitats. The smooth green snake, once widely distributed in Connecticut, has suffered from a lack of viable open habitat; the Project will result in a net benefit to this species by the creation of a significant new area of prime habitat. (BNE Exhibit 15; April 21, 2011 Tr. at 250-51, 256-58)

76. The Project is also protective of the “live zones” surrounding vernal pools, in which 95 percent of the species that breed in a vernal pool are found. (April 21, 2011 Tr. at 250-51, 256-58)
77. The Project will not have undue impacts to breeding bird populations in the Colebrook area. (BNE 1, 9e)
78. The breeding birds identified at the Property are regionally common and no high value bird habitats are located within the development area of Wind Colebrook South. No state or federally listed threatened or endangered species were identified during the breeding bird survey. (BNE 1, 9e)
79. While wind projects can result in collision-induced mortality of birds, these impacts have not been shown to result in population-level effects. (BNE 1, 9e)
80. Alternative uses of the Property, for example for housing development, would result in far greater loss of forested habitats and increased fragmentation—and therefore greater impact to breeding birds—compared with the proposed Project. (BNE 1, 9e, 18)
81. The DEP does not anticipate significant negative impacts to breeding birds by the proposed project. (DEP correspondence dated April 6, 2011)
82. BNE has committed to conducting an additional migratory bird study on the Site from March to April 2011; this additional data will be provided to the DEP to better inform of bird activity on the Site. (BNE 9e, 17)
83. The Project will not have undue impact to bat populations. (BNE 9e, 17)
84. One of the key factors in minimizing impacts to bat populations is to avoid locating wind facilities near high-value bat habitat such as forested wetlands. This factor was specifically considered in determining the proposed locations of the three turbines on the Property. (BNE 9e, 17)
85. Additional design features of Wind Colebrook South also help to further minimize potential impacts to bats, including not siting the turbines near permanent standing water, and minimizing of clearance areas for roads, turbines and infrastructures. (BNE 9e, 17)
86. While wind projects can result in collision-induced mortality of bats, these impacts have not been shown to result in population-level effects. Bat fatality patterns observed at facilities within the region in similar forest-dominated landscapes have been low to moderate, based on regional study results. (BNE 9e, 17)
87. The vast majority of formal post-construction bat mortality studies completed in the United States have been completed at facilities with substantially larger numbers of turbines and megawatt capacity than what is proposed for Wind Colebrook South. For

example, the 76 projects evaluated in BNE's bat acoustic report had an average of 53.8 turbines per site. Wind Colebrook South will likely have a much more limited impact in terms of bat fatalities compared to these facilities given the fact that only three turbines are proposed for the site. (BNE 9e, 17)

88. BNE appropriately met with DEP in the spring of 2010 and went above and beyond the bat studies that DEP requested BNE to perform. (BNE 17)
89. DEP concluded that, "[i]n general, the methods and process used for the acoustic bat surveys are appropriate, but a few modifications could have improved the results."
90. BNE elected to utilize ground-based Anabat detectors because placement of an elevated detector would have required lowering the meteorological tower to the ground which may have damaged meteorological instrumentation and resulted in study delay. Ground-based Anabat sampling is a respected method of sampling and has been used during pre-construction acoustic bat monitoring at commercial wind energy projects for years. (BNE 9e, 17)
91. BNE has volunteered to perform additional bat monitoring for the period of May to November 2011 and to conduct a two-year post-construction bat monitoring study; this data would be submitted to the DEP to better inform the DEP of bat activity on the Property and in the surrounding area. (BNE 17)
92. The United States Fish and Wildlife Service ("USFWS") interim draft guidelines were released in February 2011, *after* BNE's consultations with DEP and the completion of wildlife surveys in 2010. These draft interim guidelines are guidelines, not requirements. In addition, the guidelines are draft only and have not yet been finalized. Nonetheless, BNE has demonstrated compliance with terms of Tiers 1 through 3 of the draft guidelines. (BNE 17)
93. Despite the small project size, BNE has committed to completing a Scope of Work for biological surveys greater than the level of work completed at most other facilities of similar or larger size. (BNE 17)

Respectfully Submitted,  
BNE ENERGY INC.

By: /s/ Lee D. Hoffman  
Lee D. Hoffman  
Bonnie L. Heiple  
Pullman & Comley, LLC  
90 State House Square  
Hartford, CT 06103-3702  
Juris No. 409177  
860-424-4300 (p)  
860-424-4370 (f)  
Its Attorneys

## Certification

This is to certify that a copy of the foregoing has been mailed this date to all parties and intervenors of record.

Richard Roznoy  
11 School Street  
P.O. Box 850  
East Granby, CT 06026

Nicholas J. Harding  
Emily A. Gianquinto  
Reid and Riege, P.C.  
One Financial Plaza  
Hartford, CT 06103

John R. Morissette (electronic format only)  
Manager-Transmission Siting and Permitting  
The Connecticut Light & Power Company  
P.O. Box 270  
Hartford, CT 06141-0270

Christopher R. Bernard (electronic format only)  
Manager-Regulatory Policy (Transmission)  
The Connecticut Light & Power Company  
P.O. Box 270  
Hartford, CT 06141-0270

Joaquina Borges King (electronic format only)  
Senior Counsel  
The Connecticut Light & Power Company  
P.O. Box 270  
Hartford, CT 06141-0270

Thomas D. McKeon  
First Selectman  
Town of Colebrook  
P.O. Box 5  
Colebrook, CT 06021

David R. Lawrence, MD  
Jeannie Lemelin LPN  
30 Flagg Hill Road  
Colebrook, CT 06021

David M. Cusick  
Howd, Lavieri & Finch, LLP

682 Main Street  
Winsted, CT 06098

Walter M. Zima  
Brandy Grant  
12B Greenwood Turnpike  
Winsted, CT 06098

Eva Villanova  
134 Forest Avenue  
Winsted, CT 06098

/s/ Lee D. Hoffman

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